

<400> 3

agt gca acc agc ttg gca gac
 Ser Ala Thr Ser Leu Ala Asp
 1 5

<210> 4
 <211> 7
 <212> PRT
 <213> Rattus norvegicus

<400> 4
 Ser Ala Thr Ser Leu Ala Asp
 1 5

<210> 5
 <211> 27
 <212> DNA
 <213> Rattus norvegicus

<220>
 <221> CDS
 <222> (1)..(27)

<400> 5
 cta cag cgt tat agt aat ccc aac acg
 Leu Gln Arg Tyr Ser Asn Pro Asn Thr
 1 5

<210> 6
 <211> 9
 <212> PRT
 <213> Rattus norvegicus

<400> 6
 Leu Gln Arg Tyr Ser Asn Pro Asn Thr
 1 5

<210> 7
 <211> 30
 <212> DNA
 <213> Rattus norvegicus

<220>
 <221> CDS
 <222> (1)..(30)

<400> 7
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 Gly Tyr Thr Phe Thr Ser Tyr Asp Met His
 1 5 10

<210> 8
 <211> 10
 <212> PRT
 <213> Rattus norvegicus

<400> 8
 Gly Tyr Thr Phe Thr Ser Tyr Asp Met His
 1 5 10

<210> 9
 <211> 51
 <212> DNA
 <213> Rattus norvegicus

<220>
 <221> CDS
 <222> (1)..(51)

<400> 9
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 Trp Ile Tyr Pro Gly Asn Gly Asn Thr Lys Tyr Asn Gln Lys Phe Asn
 1 5 10 15
 ggg 51
 Gly

<210> 10
 <211> 17
 <212> PRT
 <213> Rattus norvegicus

<400> 10
 Trp Ile Tyr Pro Gly Asn Gly Asn Thr Lys Tyr Asn Gln Lys Phe Asn
 1 5 10 15
 Gly

<210> 11
 <211> 42
 <212> DNA
 <213> Rattus norvegicus

<220>
 <221> CDS
 <222> (1)..(42)

<400> 11

gat tgg cat tac tat agc agc tat atc cgt ccc ttt gct tac 42
 Asp Trp His Tyr Tyr Ser Ser Tyr Ile Arg Pro Phe Ala Tyr
 1 5 10

<210> 12
 <211> 14
 <212> PRT
 <213> Rattus norvegicus

<400> 12
 Asp Trp His Tyr Tyr Ser Ser Tyr Ile Arg Pro Phe Ala Tyr
 1 5 10

<210> 13
 <211> 369
 <212> DNA
 <213> Rattus norvegicus

<220>
 <221> CDS
 <222> (1)..(369)

<400> 13
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 Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ser
 1 5 10 15

tca gtg aaa att tcc tgc aag gct tct ggc tac aca ttc acc agt tac 96
 Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
 20 25 30

gat atg cac tgg ata aaa cag cag cct gga aat ggc ctt gag tgg att 144
 Asp Met His Trp Ile Lys Gln Gln Pro Gly Asn Gly Leu Glu Trp Ile
 35 40 45

ggg tgg att tat cct gga aat ggt aat act aag tac aat caa aag ttc 192
 Gly Trp Ile Tyr Pro Gly Asn Gly Asn Thr Lys Tyr Asn Gln Lys Phe
 50 55 60

aat ggg aag gca aca ctc act gca gac aaa tcc tcc agc aca gcc tat 240
 Asn Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr
 65 70 75 80

atg cag ctc agc agc ctg aca tct gag gac tct gca gtc tat ttc tgt 288
 Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys
 85 90 95

gca aga gat tgg cat tac tat agc agc tat atc cgt ccc ttt gct tac 336
 Ala Arg Asp Trp His Tyr Tyr Ser Ser Tyr Ile Arg Pro Phe Ala Tyr
 100 105 110

tgg ggc caa ggc act ctg gtc act gtc tct tca 369

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 14
<211> 123
<212> PRT
<213> Rattus norvegicus

<400> 14
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ser
1 5 10 15
Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30
Asp Met His Trp Ile Lys Gln Gln Pro Gly Asn Gly Leu Glu Trp Ile
35 40 45
Gly Trp Ile Tyr Pro Gly Asn Gly Asn Thr Lys Tyr Asn Gln Lys Phe
50 55 60
Asn Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80
Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys
85 90 95
Ala Arg Asp Trp His Tyr Tyr Ser Ser Tyr Ile Arg Pro Phe Ala Tyr
100 105 110
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 15
<211> 321
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (1)..(321)

<400> 15
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Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser Pro Glu
1 5 10 15
gaa att gtc acg atc aca tgc cag gca agc cag gac att ggt aat tgg 96
Glu Ile Val Thr Ile Thr Cys Gln Ala Ser Gln Asp Ile Gly Asn Trp
20 25 30
tta gca tgg tat cag cag aaa cca ggg aaa tct cct caa ctc ctg atc 144

Leu	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Lys	Ser	Pro	Gln	Leu	Leu	Ile	
	35						40					45				
tat	agt	gca	acc	agc	ttg	gca	gac	ggg	atc	cca	tca	agg	ttc	agc	ggc	192
Tyr	Ser	Ala	Thr	Ser	Leu	Ala	Asp	Gly	Ile	Pro	Ser	Arg	Phe	Ser	Gly	
	50					55					60					
agt	aga	tct	ggt	aca	cag	tat	tct	ctt	aag	atc	agc	aga	cta	cag	gtt	240
Ser	Arg	Ser	Gly	Thr	Gln	Tyr	Ser	Leu	Lys	Ile	Ser	Arg	Leu	Gln	Val	
	65				70					75					80	
gaa	gat	act	gga	atc	tat	tac	tgt	cta	cag	cgt	tat	agt	aat	ccc	aac	288
Glu	Asp	Thr	Gly	Ile	Tyr	Tyr	Cys	Leu	Gln	Arg	Tyr	Ser	Asn	Pro	Asn	
				85					90					95		
acg	ttt	gga	gct	ggg	acc	aag	ctg	gag	ctg	aaa						321
Thr	Phe	Gly	Ala	Gly	Thr	Lys	Leu	Glu	Leu	Lys						
			100					105								

<210> 16

<211> 107

<212> PRT

<213> Rattus norvegicus

<400> 16

Asp	Ile	Gln	Met	Thr	Gln	Ser	Pro	Ala	Ser	Leu	Ser	Ala	Ser	Pro	Glu
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Glu	Ile	Val	Thr	Ile	Thr	Cys	Gln	Ala	Ser	Gln	Asp	Ile	Gly	Asn	Trp
		20						25					30		

Leu	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Lys	Ser	Pro	Gln	Leu	Leu	Ile
	35						40					45			

Tyr	Ser	Ala	Thr	Ser	Leu	Ala	Asp	Gly	Ile	Pro	Ser	Arg	Phe	Ser	Gly
	50					55					60				

Ser	Arg	Ser	Gly	Thr	Gln	Tyr	Ser	Leu	Lys	Ile	Ser	Arg	Leu	Gln	Val
	65				70					75					80

Glu	Asp	Thr	Gly	Ile	Tyr	Tyr	Cys	Leu	Gln	Arg	Tyr	Ser	Asn	Pro	Asn
				85					90					95	

Thr	Phe	Gly	Ala	Gly	Thr	Lys	Leu	Glu	Leu	Lys
			100					105		

<210> 17

<211> 1637

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic construct of DNA encoding bispecific single chain antibody comprising anti-zeta-chain/anti-EpCAM domains.

<400> 17

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gaattcacca tgggatggag ctgtatcatc ctcttcttgg tagcaacagc tacaggtgta 60
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gtcacgatca catgccaggc aagccaggac attggttaatt ggtagcatg gtatcagcag 180
aaaccaggga aatctcctca actcctgato tatagtgcaa ccagcttggc agacgggatc 240
ccatcaaggt tcagcggcag tagatctggg acacagtatt ctcttaagat cagcagacta 300
caggttgaag atactggaat ctattactgt ctacagcgtt atagtaatcc caacacgttt 360
ggagctggga ccaagctgga gctgaaaggt ggtggtgggt ctggcggcgg cggtccgggt 420
gggtggtggt ctacaggtaca gctgcagcaa tctggagctg agctagtga gcttgggtcc 480
tcagtgaata tttcctgcaa ggcttctggc tacacattca ccagttacga tatgcactgg 540
ataaaacagc agcctggaaa tggccttgag tggattgggt ggatttatcc tggaaatggt 600
aataactaagt acaatcaaaa gttcaatggg aaggcaacac tcaactgcaga caaatcctcc 660
agcacagcct atatgcagct cagcagcctg acatctgagg actctgcagt ctatttctgt 720
gcaagagatt ggcattacta tagcagctat atccgtccct ttgcttactg gggccaaggc 780
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tctggcggcg gcggctccgg tgggtggtgg tctgagctcg tgatgacca gactccactc 1260
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gtttatttct gctctcaaag tacacatgtt ccgtacacgt tcggaggggg gaccaagctt 1560
gagatcaaac gtacgactag ccatcaccat caccatcaca ctagctaatt aatttaagcg 1620
gccgctctag agtcgac 1637

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<210> 18

<211> 532

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic construct of DNA encoding bispecific single chain antibody comprising anti-zeta-chain/anti-EpCAM domains.

<400> 18

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Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
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Val His Ser Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Ala
      20             25             30

Ser Pro Glu Glu Ile Val Thr Ile Thr Cys Gln Ala Ser Gln Asp Ile

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35

40

45

Gly	Asn	Trp	Leu	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Lys	Ser	Pro	Gln
50						55					60				
Leu	Leu	Ile	Tyr	Ser	Ala	Thr	Ser	Leu	Ala	Asp	Gly	Ile	Pro	Ser	Arg
65					70					75					80
Phe	Ser	Gly	Ser	Arg	Ser	Gly	Thr	Gln	Tyr	Ser	Leu	Lys	Ile	Ser	Arg
				85					90					95	
Leu	Gln	Val	Glu	Asp	Thr	Gly	Ile	Tyr	Tyr	Cys	Leu	Gln	Arg	Tyr	Ser
			100					105					110		
Asn	Pro	Asn	Thr	Phe	Gly	Ala	Gly	Thr	Lys	Leu	Glu	Leu	Lys	Gly	Gly
		115					120					125			
Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gln	Val	Gln
130						135					140				
Leu	Gln	Gln	Ser	Gly	Ala	Glu	Leu	Val	Lys	Pro	Gly	Ser	Ser	Val	Lys
145					150					155					160
Ile	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe	Thr	Ser	Tyr	Asp	Met	His
				165					170					175	
Trp	Ile	Lys	Gln	Gln	Pro	Gly	Asn	Gly	Leu	Glu	Trp	Ile	Gly	Trp	Ile
			180					185					190		
Tyr	Pro	Gly	Asn	Gly	Asn	Thr	Lys	Tyr	Asn	Gln	Lys	Phe	Asn	Gly	Lys
		195					200					205			
Ala	Thr	Leu	Thr	Ala	Asp	Lys	Ser	Ser	Ser	Thr	Ala	Tyr	Met	Gln	Leu
		210				215					220				
Ser	Ser	Leu	Thr	Ser	Glu	Asp	Ser	Ala	Val	Tyr	Phe	Cys	Ala	Arg	Asp
225					230					235					240
Trp	His	Tyr	Tyr	Ser	Ser	Tyr	Ile	Arg	Pro	Phe	Ala	Tyr	Trp	Gly	Gln
				245					250					255	
Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Gly	Gly	Gly	Gly	Ser	Glu	Val	Gln
			260					265					270		
Leu	Leu	Glu	Gln	Ser	Gly	Ala	Glu	Leu	Ala	Arg	Pro	Gly	Ala	Ser	Val
		275					280					285			
Lys	Leu	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe	Thr	Asn	Tyr	Gly	Leu
		290				295					300				
Ser	Trp	Val	Lys	Gln	Arg	Pro	Gly	Gln	Val	Leu	Glu	Trp	Ile	Gly	Glu
305					310					315					320
Val	Tyr	Pro	Arg	Ile	Gly	Asn	Ala	Tyr	Tyr	Asn	Glu	Lys	Phe	Lys	Gly
				325					330					335	

Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Ser Met Glu
 340 345 350
 Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys Ala Arg
 355 360 365
 Arg Gly Ser Tyr Asp Thr Asn Tyr Asp Trp Tyr Phe Asp Val Trp Gly
 370 375 380
 Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Ser Gly Gly
 385 390 395 400
 Gly Gly Ser Gly Gly Gly Gly Ser Glu Leu Val Met Thr Gln Thr Pro
 405 410 415
 Leu Ser Leu Pro Val Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys Arg
 420 425 430
 Ser Ser Gln Ser Leu Val His Ser Asn Gly Asn Thr Tyr Leu His Trp
 435 440 445
 Tyr Leu Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Lys Val
 450 455 460
 Ser Asn Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser
 465 470 475 480
 Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu
 485 490 495
 Gly Val Tyr Phe Cys Ser Gln Ser Thr His Val Pro Tyr Thr Phe Gly
 500 505 510
 Gly Gly Thr Lys Leu Glu Ile Lys Arg Thr Thr Ser His His His His
 515 520 525
 His His Thr Ser
 530

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Protein Data Bank